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# Study of feasibility of pulse detonation engine powered by alternative fuels (Article)

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## Abstract

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World energy demand will continue to increase because of the development of the economy of the world and an increase in population. Non-renewable crude oil- derived liquid fuels are used in the world for more than two hundred years. 90% of liquid fuels are estimated to be consumed for energy generation and transportation. Liquid fuels cause environmental pollution like carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>) and sulfur-containing residues which results in global warming. As we know energy is required but it is short supply, on other side waste is unwanted but it also unavoidable. Agricultural, industrial & domestic waste can be converted into biodiesel, biogas utilizing various techniques. Biogas, biodiesel, biomass, biofuel, alcohol, vegetable oils and so on can solve environmental problems. A pulse detonation engine is anticipated to be a high- performance, next-generation aerospace propulsion engine. This new concept propulsion systems that use repetitive detonations to generate power or thrust. This review is, therefore, a parallel comparison with the hope of analyzing comparatively various biofuels that have been used and documented for PDE. Biofuel combustion characteristics are also investigated in detonation mode. The strategy for exploring the possibility of using biofuels for PDE operation is presented here. © 2019, Blue Eyes Intelligence Engineering and Sciences Publication. All rights reserved.

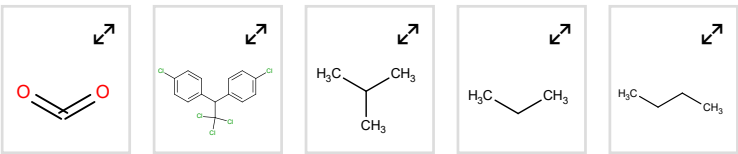
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